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ABSTRACT

Thirteen seventh grade students who ranked low in reading achievement on either or both vocabulary skills and comprehension skills based on their Gates-MacGinitie Reading Test scores were the participants in this project. A program of instruction was developed that included four behavioral objectives in the areas of reading comprehension, vocabulary, speed, and accuracy. A reading achievement program, developed by the Hoffman Information Systems, was the core curriculum for the students in the project. Only three or four students used the Hoffman materials at one time, and the materials were alternated with other curricular materials. The Gates-MacGinitie Reading Test, Survey E, Forms 1 and 2, were administered to obtain pre- and post-test measures. Analysis of the objectives were made with the use of formulas developed specifically for the Gates-MacGinitie Reading Test. The results indicated that the objectives for comprehension skills and speed were achieved, but the objectives for vocabulary and accuracy were not achieved. (WR)

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ED 080979

REGION VI

CENTRAL ARKANSAS EDUCATION CENTER
Markham and Izard Streets
Little Rock, Arkansas 72201

MINI-GRANT PROJECT

TITLE: SEVENTH GRADE READING IMPROVEMENT PROGRAM

DATE: 1970-1972

A. Mrs. Lela Gooden
Mini-Grant Recipient(s)

B. Raymond H. Brown
Name of Principal

C. Carlisle Junior High School
Name of School

D. Carlisle School District
Name of School District

E. Dr. Leon L. Wilson, Dr. J.H. Fain
C.A.E.C. Consultants

CS 000 718

I. TITLE: A SEVENTH GRADE READING IMPROVEMENT PROGRAM

II. READING PROBLEM

A. The Students: Thirteen students, approximately one-sixth of the seventh grade students who were enrolled in the Carlisle Junior High School were the participants in the project during the 1970-71 school year.

B. The Problem: According to Gates-MacGinitie Reading Test scores, the participants ranked low in reading achievement on either or both vocabulary skills and comprehension skills.

III. PROGRAM FOR INSTRUCTION

A. Behavioral Objectives:

1. Seventeen seventh grade students will be able to demonstrate reading comprehension skills at a level of performance that would be expected on the basis of vocabulary development as measured by the Gates-MacGinitie Reading Test.

2. Seventeen seventh grade students will be able to demonstrate a significant gain in the level of achievement for vocabulary skills in reading as measured by the vocabulary sub-tests of the Gates-MacGinitie Reading Test.

3. Seventeen seventh grade students will be able to demonstrate a significant gain in the level of achievement for comprehension skills in reading as measured by comprehension sub-tests of the Gates-MacGinitie Reading Test.

4. Seventeen seventh grade students will be able to demonstrate a significant gain in the level of achievement for speed and accuracy in reading as measured by Speed and Accuracy sub-tests of the Gates-MacGinitie Reading Test.

B. Teaching Strategies: A reading achievement program, developed by the Hoffman Information Systems, was the core curriculum for the students in the project. The Hoffman Reading Achievement System is an audiovisual program of language arts lessons which encompass listening, reading, spelling, and writing.

The program was purchased for use by students who were remedial or underachievers. Only Fourth and Fifth Level Achievement Units were purchased. (See Appendix A for a summary of materials for this project.)

Each level consists of three achievement units, and each of the achievement units has ten study units. Each study unit consists of four filmstrips and two seven-inch records. The audiovisual reading lesson consists of a story, a reading comprehension lesson, and study skills lessons. The study skills lessons are for developing comprehension, vocabulary, spelling power and word analysis skills. For each Achievement Unit there is a Study Answer Book in which the learner records his responses as he progresses through the program.

All student responses are guided by audiovisual presentations which provide each student with immediate feedback for evaluation. The correct answers to the exercises are given audiovisually. Students check their own responses.

An Encore Library contains booklets that provide independent reading material for reinforcement, review, and reading fluency. There are word lists on the back page of each Encore containing eight key words which are taught in the Study Unit story. Upon completion of a Study Unit, each student is given a booklet which serves as a review of the story with a challenge to apply his knowledge of the familiar vocabulary and to master the additional words.

For reading, the seventh grade class of eighty-two students was divided into four sections ranging from ten to twenty-nine. Only three or four students used the Hoffman projector at one time, and the total number in three of participants was thirteen. In three of the classes, two groups alternated Hoffman materials with other curricular materials; thus, more students were able to participate in the program than could have otherwise.

IV. EVALUATION

A. Measurement: The Gates-MacGinitie Reading Test, Survey E, Forms 1 and 2 were administered to obtain pre- and

post-test data for vocabulary skills, comprehension skills, speed and accuracy. Form 1 was administered on March 9, 1971, and Form 2 was administered on May 21, 1971, after two and one-half months of instruction.

A Calendar of Events was made to schedule measuring and reporting. (See Appendix B.)

B. Analysis: Analysis of the objectives were made with the aid of formulas which were developed specifically for the Gates-MacGinitie Reading Tests.

The table which follows shows the mean scores for thirteen students who were administered pre- and post-testing during the existence of the project during the 1970-71 school year. Both grade score and standard score means are given for vocabulary, comprehension, speed and accuracy. The standard scores were used in determing whether the gain was significant between pre- and post-testing. Following the table, an analysis is provided for each of the objectives.

TABLE A

CARLISLE JUNIOR HIGH SCHOOL

GATES-MACGINITIE READING TEST SCORES *

Spring, 1971 (N=13)

	Grade Score Means			Standard Score Means			
	Pre-Test	Post-Test	Gain	Pre-Test	Post-Test	Gain	Gain Significant **
Vocabulary	5.3	5.2	-0.1	41	38	-3	No
Comprehension	4.5	4.9	0.3	38	39	1	No
Speed	5.6	6.9	1.3	44	48	4	Yes
Accuracy	8.7	8.9	0.2	53	55	2	No

* Pre-test: Survey E, Form 1; Post-test, Survey E, Form 2

** Based on application of Gates-MacGinitie formulas to standard scores.

OBJECTIVE NO. 1: Seventeen seventh grade students will be able to demonstrate reading comprehension skills at a level of performance that would be expected on the basis of vocabulary development as measured by the Gates-MacGinitie Reading Test.

ANALYSIS: The Gates-MacGinitie formula $C = .96V + 1.85 \pm \frac{9.04}{\sqrt{N}}$ was applied where C represents the standard score range of expectancy, and V represents the standard score mean for vocabulary. C yielded a range from 35.82 to 40.84 where V = 38 and N = 13.

The standard score mean for comprehension skills was 39 which falls within the range; therefore, the objective was achieved for the comprehension skills were at a level of performance that would be expected on the basis of vocabulary development.

OBJECTIVE NO. 2: Seventeen seventh grade students will be able to demonstrate a significant gain in the level of achievement for vocabulary skills in reading as measured by the vocabulary subtests of the Gates-MacGinitie Reading Test.

ANALYSIS: The Gates-MacGinitie formula $9.6 / \sqrt{N}$ was applied where N = 13. The value yielded is 2.66 which is the minimum standard score mean that can be considered to be significant.

The pre- and post-standard score means were 41 and 39 respectively. The difference of -2 is less than 2.66; therefore, the objective was not achieved for the vocabulary skills did not show a significant gain.

OBJECTIVE NO. 3: Seventeen seventh grade students will be able to demonstrate a significant gain in the level of achievement for comprehension skills in reading as measured by comprehension sub-tests of the Gates-MacGinitie Reading Test.

ANALYSIS: The Gates-MacGinitie formula $8.9 / \sqrt{N}$ was applied where N = 13. The value yielded is 2.43; which is the minimum standard score mean that can be considered significant.

The pre-and post-standard score means were 38 and 39 respectively. The difference of 1 is less than 2.43; therefore, the objective was not fully achieved because the level of achievement for comprehension skills did not show a significant gain.

OBJECTIVE NO. 4: Seventeen seventh grade students will be able to demonstrate a significant gain in the level of achievement for speed and accuracy in reading as measured by Speed and Accuracy sub-tests of the Gates-MacGinitie Reading Test.

ANALYSIS: Speed: The Gates-MacGinitie formula 11.4 $/\sqrt{N}$ was applied where N= 13. The value yielded is 3.11 which is the minimum standard score mean that can be considered to be significant.

The pre- and post-standard score means for speed are 44 and 48 respectively. The difference of 4.0 is greater than 3.11; thus the level of achievement for speed in reading shows a significant gain.

Accuracy: The Gates-MacGinitie formula 11.2 $/\sqrt{N}$ was applied where N = 13. The value yielded is 3.05 which is the minimum standard score mean that can be considered to be significant.

The pre- and post-standard score means for accuracy are 53 and 55 respectively. The difference of 2.0 is less than 3.05; thus the level of achievement for accuracy in reading does not show a significant gain. If the analysis had been made on the basis of full year of instruction, however, it is probable that the gain would have been highly significant.

Since the students received instruction for only two and one-half months, the objective was only partially achieved.

In addition to the outcomes reflected by statistical analysis of the objectives, most of the students are reported by the instructor to have developed pride in penmanship and general neatness of their work.

V. CONCLUSIONS AND RECOMMENDATIONS

A. Conclusions:

1. While not all of the objectives were acheived, there were indications that each of them would have been achieved if the project had been in effect for a full year.
2. Although the students, who were involved in the project reacted favorably to instruction with the Hoffman materials, the program was not as far-reaching as it might have been if there had been more than one projector.
3. Scheduling students to the best advantage for the reading program was not possible because of participation in extracurricular activities.

B. Recommendations:

1. Continue the program and gain a full year of evaluation.
2. Involved more students.
3. Resolve scheduling conflicts.

APPENDIX A

School Products Company
P. O. Box 1447
824 W. 8th at Izard
Little Rock, Arkansas 72203

Quantity	Description
3	4th Level Achievement Units
3	5th " " "
3	4th Level Encore Library
3	5th " " "
45	4th Level Answer Books
30	5th " " "
1	4th Level Reference Guide
1	5th " " "

Test Division
The Bobbs-Merrill Co., Inc.
4300 W. 62nd Street
Indianapolis, Indiana 46268

Quantity	Description
	Gates-MacGinitie Tests
3 Pkgs.	Form 1 Survey E Pre
3 Pkgs.	Form 2 Survey E Post

CALENDAR OF EVENTS: CARLISLE SCHOOL DISTRICT (Carlisle Junior High School)

Mrs. Lela Gooden: "A Program for Improving Seventh Grade Reading"

Target Date	Events: Activities, Materials, & Facilities	Person(s) Responsible	Completion Date
9/71	Pre-test: Administer Gates-MacGinitie Reading Test, Survey E, Form 1	Gooden	9-29-71
5/72	Post-test: Administer Gates-MacGinitie Reading Test, Survey E, Form 2	Gooden	5-02-72
6/72	FINAL REPORT: Revise the strategies, answer the objectives, state conclusions and recommendations	Gooden	

Appendix B

A D D E N D U M

The addendum includes evaluation of the project during its second year of operation (1971-1972).

TABLE B

Carlisle Junior High School
Gates-MacGinitie Reading Test*
Seventh Grade
N=7

Reading Skills Tests	MEANS											
	Raw Scores			Standard Scores			Percentile Scores			Grade Scores		
	Pre-Test	Post-Test	Gain	Oct. Norms Pre-Test	Oct. Norms Post-Test	May Norms Post-Test	Oct. Norms Pre-Test	Oct. Norms Post-Test	May Norms Post-Test	Pre-Test	Post-Test	Gain
Vocabulary	15	17	2	43	45	43	24	31	24	5.3	5.9	0.6
Comprehension	23	23	0	42	42	40	21	21	16	4.5	4.5	0.0
Composite	-	-	-	43	44	42	24	27	21	4.9	5.2	0.3
Speed and Accuracy	11	15	4	42	52	50	21	58	50	5.0	7.7	2.7
	7	11	4	37	47	45	10	38	31	4.1	6.2	2.1

*Pre-test; Survey E, Form 1: Post-test; Survey E, Form 2

ANALYSIS OF OBJECTIVES

OBJECTIVE NO. 1: Seven seventh grade students will be able to demonstrate reading comprehension skills at a level of performance that would be expected on the basis of vocabulary development as measured by the Gates-MacGinitie Reading Test.

ANALYSIS: The Gates-MacGinitie formula $C = .96V + 1.85 \pm 9.04\sqrt{N}$ was applied where C represents the standard score range of expectancy, and V represents the standard score mean for vocabulary. C yielded a range from 39.72 to 46.54 where V = 43 and N = 7.

The standard score mean (post-test for comprehension skills) was 40 which falls inside the range of 39.72 to 46.54: therefore, the objective was assessed as being achieved for the comprehension skills were at a level of performance that would be expected on the basis of vocabulary development.

OBJECTIVE NO. 2: Seven seventh grade students will be able to demonstrate a significant gain in the level of achievement for vocabulary skills in reading (October norms only) as measured by the vocabulary sub-tests of the Gates-MacGinitie Reading Test.

ANALYSIS: The Gates-MacGinitie formula $9.6/\sqrt{N}$ was applied where N = 7. According to the formula, a gain of 3.62 points was required to reach significance. The standard score means from converted raw score means on both the pre- and post-tests for achievement in vocabulary skills, were 43 and 45 respectively. The gain of 2.0 points was less than the 3.62 points required for significance; therefore, the objective was assessed as being unachieved.

OBJECTIVE NO. 3: Seven seventh grade students will be able to demonstrate a significant gain in the level of achievement for comprehension skills in reading (October norms only) as measured by comprehension sub-tests of the Gates-MacGinitie Reading Test.

ANALYSIS: The Gates-MacGinitie formula $8.9/\sqrt{N}$ was applied where N = 7. According to the formula, a gain of 3.36 standard score points was required to reach significance. The standard score means, from converted raw score means on both pre- and post-tests, were 43 and 44 respectively. The gain of 1.0 standard score points was less than the 3.36 points required to be significant; therefore, the objective was assessed as being unachieved.

OBJECTIVE NO. 4: Seven seventh grade students will be able to demonstrate a significant gain in the level of achievement for speed and accuracy in reading (October norms only) as measured by Speed and Accuracy sub-tests of the Gates-MacGinitie Reading Test.

ANALYSIS:

A. Speed: The Gates-MacGinitie formula $11.4/\sqrt{N}$ was applied where N = 7. According to the formula, a gain of 4.30 standard score

points was required to reach significance. The standard score means, from converted raw score means on both the pre- and post-tests, were 42 and 52 respectively. The gain of 10.0 points was far greater than the 4.30 points required for significance; therefore, the objective for speed was assessed as being achieved.

B. Accuracy: The Gates-MacGinitie formula $11.2/\sqrt{N}$ was applied where N = 7. According to the formula, a gain of 4.23 standard score points was required to reach significance. The standard score means, from converted raw score means on both the pre- and post-tests, were 37 and 47 respectively. The gain of 10.0 points was far greater than the 4.23 points required for significance; therefore, the objective for accuracy was assessed as being achieved.

TABLE C

Carlisle Junior High School
Gates-MacGinitie Reading Test*
Eighth Grade
N=14

Reading Skills Tests	MEANS											
	Raw Scores			Standard Scores			Percentile Scores			Grade Scores		
	Pre-Test	Post-Test	Gain	Oct. Norms Pre-Test	Oct. Norms Post-Test	May Norms Post-Test	Oct. Norms Pre-Test	Oct. Norms Post-Test	May Norms Post-Test	Pre-Test	Post-Test	Gain
Vocabulary	14	18	4	39	44	42	14	27	21	4.9	6.2	1.3
Comprehension	22	24	2	37	39	37	37	14	10	4.3	4.7	0.4
Composite	-	-	-	38	42	40	26	22	16	4.6	5.5	0.9
Speed and Accuracy	15	10	-5	49	37	35	46	10	7	7.7	4.5	-3.2
	9	12	3	39	45	43	14	31	24	5.1	6.8	1.7

*Pre-test; Survey E, Form 1: Post-test; Survey E, Form 2

ANALYSIS OF OBJECTIVES

OBJECTIVE NO. 1: Fourteen eighth grade students will be able to demonstrate reading comprehension skills at a level of performance that would be expected on the basis of vocabulary development as measured by the Gates-MacGinitie Reading Test.

ANALYSIS: The Gates-MacGinitie formula $C = .99V + 0.62 \pm 8.94/\sqrt{N}$ was applied where C represents the standard score range of expectancy and V represents the standard score mean for vocabulary. C yielded a range from 41.79 to 46.57 where V = 44 and N = 14.

The standard score mean (post-test for comprehension skills) was 37 which falls outside and below the range of 41.79 to 46.57; therefore, the objective was assessed as being unachieved for the comprehension skills were not at a level of performance that would be expected on the basis of vocabulary development.

OBJECTIVE NO. 2: Fourteen eighth grade students will be able to demonstrate a significant gain in the level of achievement for vocabulary skills in reading (October norms only) as measured by the vocabulary sub-tests of the Gates-MacGinitie Reading Test.

ANALYSIS: The Gates-MacGinitie formula $9.2/\sqrt{N}$ was applied where N = 14. According to the formula, a gain of 2.46 standard score points was required to reach significance. The standard score means, from converted raw score means on both pre- and post-tests, were 39 and 44 respectively. The gain of 5.0 points was far greater than the 2.46 points required to reach significance; therefore, the objective was assessed as being achieved.

OBJECTIVE NO. 3: Fourteen eighth grade students will be able to demonstrate a significant gain in the level of achievement for comprehension skills in reading (October norms only) as measured by comprehension sub-tests of the Gates-MacGinitie Reading Test.

ANALYSIS: The Gates-MacGinitie formula $8.9/\sqrt{N}$ was applied where N = 14. According to the formula, a gain of 2.38 standard score points was required to reach significance. The standard score means, from converted raw score means on both pre- and post-tests, were 37 and 39 respectively. The gain of 2.0 standard score points was less than the 2.38 points required for significance; therefore, the objective was assessed as being unachieved.

OBJECTIVE NO. 4: Fourteen eighth grade students will be able to demonstrate a significant gain in the level of achievement for speed and accuracy in reading (October norms only) as measured by Speed and Accuracy sub-tests of the Gates-MacGinitie Reading Test.

ANALYSIS:

A. Speed: The Gates-MacGinitie formula $10.8/\sqrt{N}$ was applied where N = 14. According to the formula, a gain of 2.89 standard score

points was required to reach significance. The standard score means, from converted raw score means on both the pre- and post-tests, were 49 and 37 respectively. The loss, rather than a gain, of 12.0 standard score points lacked significance; therefore, the objective for speed was assessed as being unachieved.

B. Accuracy: The Gates-MacGinitie formula $10.0/\sqrt{N}$ was applied where N = 14. According to the formula, a gain of 2.67 standard score points was required to reach significance. The standard score means, from converted raw score means on both the pre- and post-tests, were 39 and 45 respectively. The gain of 6.0 standard score points was far greater than the 2.67 points required for significance; therefore, the objective for accuracy was assessed ad being achieved.